

PDB19

A COMPARISON OF STANDARDS OF DIABETES CARE ACROSS DIFFERENT RACIAL/ETHNIC GROUPS IN THE UNITED STATES NON-INSTITUTIONALIZED ADULT POPULATION: A STUDY USING THE 2009-2010 NHANES COHORT

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OBJECTIVES: To compare the quality of diabetes care across non-Hispanic whites and Blacks and Hispanics in the United States using selected American Diabetes Association standards of care. There are few studies using large federal databases evaluating disparities among racial/ethnic groups in diabetes care. The last one was conducted using the Medication Expenditure Panel Survey 2000-2001 cohort. This study provides a more comprehensive assessment of the Standards. **METHODS:** Data from the National Health and Nutritional Examination Survey 2009-2010 cohort was used to compare quality markers such as diabetes-related access to care (physician and diabetes specialists visits), medical care (self-monitoring, treatment, dietary habits, laboratories) and co-morbidities (prevalence, treatment and monitoring) across the racial/ethnic groups. We used one-way ANOVA and chi-square test to compare continuous and discrete variables across Whites, Blacks, Hispanics and other. **RESULTS:** Overall this group had a mean age of 61 ± 14 , 51% were male, 60% had no more than a high school diploma, and 55% had an income $< \$35,000$. Only age and education level were different across groups ($p < 0.05$). Average blood pressure and total cholesterol levels were at goal except for hemoglobin A1c which was $7.3\% \pm 1.7$ and different across groups ($p = 0.003$). We found that the use of insulin, frequency of blood glucose monitoring, foot and exam in the last year, nurse educator/nutritionist/dietitian visits, and diabetic retinopathy, hypertension and hyperlipidemia diagnoses were significantly different across groups (all $p < 0.05$). **CONCLUSIONS:** A possible relationship between race/ethnicity and adherence to various standards of diabetes care may exist. A more rigorous epidemiologic study is needed to confirm our findings.

PDB20

ESTIMATED PREVALENCE OF HYPOPARATHYROIDISM IN THE UNITED STATES USING A LARGE CLAIMS DATABASE AND DISEASE SEVERITY FROM PRIMARY MARKET RESEARCH

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OBJECTIVES: Hypoparathyroidism (HypoPARA) is an endocrine disorder in which the parathyroid glands produce insufficient parathyroid hormone. This study aimed to 1) estimate the number of insured HypoPARA patients in the United States (US), and 2) obtain physician assessment of disease severity. **METHODS:** Prevalence was estimated through diagnoses of HypoPARA in the IMS LifeLink Health Plan Claims Database, containing 60 million unique patients, over a 12-month period from October 2007 through September 2008, and projected to the US insured population. Incidence was also calculated by counting the total number of parathyroidectomy, thyroidectomy, and neck dissection surgeries in the same database. Surgeries resulting in either transient or chronic (> 6 months) HypoPARA were counted to determine proportion of surgeries resulting in HypoPARA. A physician primary market research study was conducted to assess disease severity and determine the percentage of new non-surgical patients. Incidence was entered into a model to derive estimated prevalence. **RESULTS:** The prevalence approach estimated 65,325 insured US HypoPARA patients, of which 90% are chronic. The incidence approach yields 117,342 relevant surgeries resulting in 8,901 cases of HypoPARA over a 12 month period. Overall, 7.6% of surgeries resulted in HypoPARA, of which 75% are transient and 25% are chronic. When entered into the model, the estimated prevalence of insured patients is 65,389. The physician market research found that among all thyroidectomies and parathyroidectomies and neck dissections performed in a year, 26% resulted in transient HypoPARA and 5% progress to a chronic state. Of the HypoPARA patients treated over the previous 12 months, 75% were due to surgery. Physicians categorized their patients as 43% mild, 39% moderate, and 18% severe HypoPARA. **CONCLUSIONS:** Two methods yielded similar estimates of the number of insured HypoPARA patients in the US (65,000). Extrapolated to the US population, the number of HypoPARA patients is estimated at 78,000.

PDB21

PREVENTATIVE STEPS ACROSS PRE-DIABETIC AND DIAGNOSED TYPE 2 DIABETES PATIENTS IN BRAZIL

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OBJECTIVES: Risk-factors help identify an increasing number of people as pre-diabetic, with associated long-term problems to patients during the pre-diabetes stage; therefore, prevention of early onset of type 2 diabetes (T2D) is essential. To understand patient utilization of preventative measures, the current study examined steps taken to prevent diabetes among at-risk Brazilian patients, compared with diagnosed T2D patients. **METHODS:** Data were collected from the Brazil 2011 National Health and Wellness Survey, a cross-sectional survey of self-reported demographics, health outcomes, healthcare attitudes and behaviors among 12,000 adults. Risk of developing diabetes was assessed with the following question: "Has your doctor told you your blood sugar levels are high, or that you have early diabetes or are at risk for developing diabetes?" Respondents answering "yes" and not already diagnosed with diabetes were classified as pre-diabetics. Self-reported diagnosed T2D and pre-diabetics reported on what steps, if any, they took to prevent diabetes: low fat, low sodium and low sugar diet, regular exercise, and weight loss. **RESULTS:** Among 12,000 respondents, the prevalence of T2D and pre-diabetes in Brazil was 4.0% ($n=480$) and 10.7% ($n=1,288$), respectively. Significant differences

emerged in the use of any preventative steps between T2D (77.9%) and pre-diabetic (56.7%) patients, $p < 0.001$. Diagnosed diabetics were significantly more likely than pre-diabetics to eat a low fat (44.6% vs. 28.3%, $p < 0.001$), low sodium (27.5% vs. 14.6%, $p < 0.001$), or low sugar diet (65.0% vs. 42.6%, $p < 0.001$), and to attempt weight loss (35.2% vs. 29.7%, $p = 0.025$). No significant differences were found on regular exercise (28.1% vs. 24.7%) between the groups. **CONCLUSIONS:** In Brazil, 43.3% of pre-diabetic patients and 22.1% of diagnosed T2D patients took no preventative steps, with on average significantly fewer steps taken by pre-diabetics. Measures ought to be taken to build awareness and encourage lifestyle changes, especially among patients at high-risk of developing diabetes.

PDB22

EVIDENCE LINKING HYPOGLYCEMIC EVENTS TO AN INCREASED RISK OF DEPRESSION

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OBJECTIVES: This retrospective study investigated the association between hypoglycemic events (HEs) and depression events (DEs) in patients with diabetes (Type 1 and Type 2). **METHODS:** Analyzed data were from health care claims for individuals with employer-sponsored primary or Medicare supplemental insurance from the Thomson Reuters MarketScan database between the years 2008 and 2009. A baseline period (January 2008 to December 2008) was used to identify eligible patients and collect baseline clinical and demographic characteristics. Eligible patients were aged ≥ 18 years with diabetes (ICD-9CM codes: 250.00, 250.01, 250.02, 250.03) who had not experienced any HEs, DEs and were not on antidepressant therapy during the baseline period. An evaluation period (January 2009 to December 2009) was used to identify HEs (ICD-9CM coded: 251.0, 251.1, 251.2, 250.8) and DEs (ICD-9CM: 311). A multiple logistic regression model was implemented which included a binary indicator of HEs and well-known influential covariates such as age, gender, geography, comorbidity score (Charlson Comorbidity Index) and diabetes severity. We studied the relationships between the DEs and HEs before and after adjusting for the covariates. **RESULTS:** Of the 923,024 patients meeting the inclusion criteria 22,735 (2.46%) patients had HEs and 6,164 (0.67%) patients had DEs during the evaluation period. Patients reporting HEs had 78% higher odds of experiencing depression than patients without HEs before adjusting for the covariates. After adjusting for the covariates data indicated that patients with HEs had similar higher odds of experiencing depression (OR=1.726, 95% CI=1.52 – 1.96). Similar analyses in different age categories showed that the odds ratio monotonically increases with age. **CONCLUSIONS:** Results indicate that ICD-9-CM-coded HEs were associated with an increased risk of DEs in patients with diabetes and the relative risk increased with the patients' age.

PDB23

DIABETIC KETOACIDOSIS GAP ANALYSIS. POPULATION PERSPECTIVES FROM LAKE COUNTY, IL, USA

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OBJECTIVES: In this study we performed Diabetic ketoacidosis (DKA) gap analysis for the residents of Lake county, IL based on the hospital discharge data collected between 2001-2009. **METHODS:** The hospital discharge data between 2001-2009 for primary discharge diagnosis of DKA was analyzed. All patients (< 4 yr to > 85 yr) were categorized in 10 age groups and comparative analysis were performed. Patient cases for DKA were identified using ICD-9 codes for DKA (codes 250.10, 250.11, 250.12, 250.13). **RESULTS:** N= 827,355 discharge records were screened. Overall there were N=1788 cases that were discharged with the primary diagnosis of DKA reflecting a crude rate of 0.2%. The reported national age-adjusted rate by the CDC in 2005 was 21.5 cases per 1000 patients (31.6 in < 44 y, 3.4 in 45-64y and 1.4 in patients > 65 y). There were N=933 female and N=855 male cases. The overall age-adjusted rate per 1000 patients was 4.04 ± 0.136 cases. The most frequent length of stays were 1 day ($n=288$), 2 days ($n=466$), 3 days ($n=410$) or 4 days ($N=258$). Analysis of data based on residential zip codes has identified three suburbs with a high percentage of Hispanics and blacks with the highest reported cases (Waukegan= 363 cases, Zion= 163 cases and North Chicago= 109 cases). The overall age-adjusted DKA rate in Waukegan was 6.19 ± 0.436 cases per 1000 patients which is significantly greater than the average calculated rate for residents of Lake County [OR=1.54 (1.40-1.68), $P < 0.0001$]. **CONCLUSIONS:** Data suggests a high rate of age-adjusted discharge rate for DKA in parts of Lake county, IL, USA. Village of Waukegan with a large percentage of Hispanic and black population has a significantly higher odds of hospital discharge with the diagnosis of DKA compared to rest of the Lake CTY.

PDB24

PREVALENCE AND INCIDENCE OF TYPE 2 DIABETES MELLITUS: AN ANALYSIS BASED ON 5.4 MILLION PATIENTS

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OBJECTIVES: The aims of this contribution are to update and more precisely quantify the existing data concerning age/gender-specific prevalence and incidence of type 2 diabetes mellitus (T2DM) in an European setting (Germany). **METHODS:** To fulfill the aims of the study, a population-based analysis of the claims data collected by a statutory health insurance fund, and concerning its 5.4 million members, was done. A patient was classified as T2DM prevalent if he/she had received at least one inpatient and/or two outpatient diagnoses of T2DM (ICD10 code E11) in